6225
BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
DIPLOMA IN CIVIL ENGINEERING
SURVEYING-II
THIRD SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. A man travels from a point A due west and reaches a point B. The distance between the points A and B is 139.6 m. Calculate the latitude and departure of the line AB
2. What are the essential parts of a Theodolite
3. How will you set a horizontal angle by method of repetition
4. State the necessity of conducting trigonometric levelling
5. State different cases which comes under trigonometric levelling
6. During the course of tangential tacheometry, the following readings were noted:

Instrument station	Staff station	Tangent	Vertical angle	Remarks
O	P	Lower Upper	-3°15' -2°30'	Lower and Upper targets are in same vertical line 3.0 m apart

Determine the horizontal distance OP.

7. What is the Principle of tacheometry
8. Two straight lines AB and BC are connected by a circular curve of 300 m radius. Calculate the following elements if the deflection angle is 30°. (a) Tangent Length and (b) Length of curve
9. List out the different methods of curve setting
10. Define staking out.

PART - B (10m x 5 = 50m)

Note 1:Answer any five questions and each question carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. Calculate the area of a traverse shown in the table below by independent co-ordinate method.

Side	Latitude (m)		Departure (m)	
	N	S	E	W
AB	--	157.20	154.8	--
BC	210.5	--	52.5	--
CD	175.4	--	--	98.5
DA	--	228.7	--	109.0

12. Explain the method of prolonging a straight line with a transit theodolite

13. Derive an expression to find out the elevation of an object whose *base is inaccessible* and instrument stations are at different levels

14 The following readings were taken by a teacheometer from a station. The staff was kept vertical. The value of constant of techeometer is 100 and is fitted with an anallatic lens. Find out the horizontal distance from A to B and the reduced level of B.

Instrument station	Staff station	Vertical angle	Cross Hair Reading	Remarks
A	BM	-6^{0}00′	1.100,1.530,2.060	RL of BM = + 976.000 m
B		+ 8^{0}00′	0.982,1.085,1.188	

15. The distance of 50 m and 300 m were accurately measured out and the intercepts on the staff between the outer stadia webs were 0.49 at the former distance and 2.99 at the later. Find the constants of tacheometer

16. Determine the offsets to be set out at 10 m interval along the tangents to locate a 320 m radius curve and the length of each chain being 20 m by using

    (a) Radial Offsets and
    (b) Perpendicular Offsets,

17. If the radius of the curve is 400m.caculate Degree of curve for 20m chain was used

18. Explain the procedure in detail for LS and CS for a proposed road / canal / pipe-line with the help of a neat sketch

- xxx -